ELECTRONIC TUBE REFERENCE

21FP4A

Specialized - Cathode Ray electronic tube

CONSOLIDATED TECHNICAL DATA
1 SECTION
CONSTRUCTION
CATHODERAY

Twenty-one-inch direct-view monochrome television picture tube with magnetic deflection and high-voltage operation. Manufacturer documentation describes its focusing system, picture-screen construction, and receiver-display characteristics for large-screen television service.

General characteristics

BASE DESIGNATION	–	**BASE PINS**	12
NOMINAL HEATER	6.3 V / 600 mA	**PARALLEL HEATER**	– / –
HEATING	Indirect	**SERIES OPERATION**	Not specified
CATHODE ARRANGEMENT	Separate cathodes	**SECTION CONSTRUCTION**	Similar

Section ratings

SECTION1 Cathode Ray

MAXIMUM PLATE VOLTAGE	18000 V
MAXIMUM SCREEN VOLTAGE	500 V

Maximum anode voltage mapped to MaxPlateVoltage; CRT grid/focusing limits retained as parameters rather than mis-promoted as ordinary screen-grid data.

21FP4-family rectangular picture tube with electrostatic focus, magnetic deflection, grey-filter faceplate, and external conductive coating.

SOURCE OPERATING CONDITIONS

1961 Tung Sol

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1961 TUNG SOL

Section 1 · Cathode Ray

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
HighVoltageAnodeMaximum	**20000 V**	CRT

CAPACITANCE		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
CathodeToOtherElectrodesCapacitance	**5 pF**	Approximate

SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

SOURCE PDF

1966 Tung Sol Electronic Tubes 4 of 4

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1966 TUNG SOL ELECTRONIC TUBES 4 OF 4

Section 1 · Cathode Ray

CONSTRUCTION		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Focusing method	**Electrostatic**	—
Deflecting method	**Magnetic**	—
Phosphor	**P4**	White;MediumPersistence
External conductive coating	**Present**	—

CHARACTERISTIC		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Deflection angle	**70 deg**	Approximate

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Faceplate light transmission at center	**66 %**	Approximate

OTHER

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	**6.3 V**	—
Heater current	**600 mA**	—
Maximum DC anode voltage	**18000 V**	—
Maximum DC grid #2 voltage	**500 V**	—
Maximum grid #1 negative-bias magnitude	**125 V**	—
Maximum grid #1 positive DC voltage	**0 V**	—
Maximum grid #1 positive peak voltage	**2 V**	—
Typical DC anode voltage	**14000 V**	TelevisionPictureTube
Typical DC grid #2 voltage	**300 V**	TelevisionPictureTube
Typical grid #1 voltage minimum	**-77 V**	VisualExtinctionRange
Typical grid #1 voltage maximum	**-33 V**	VisualExtinctionRange
Maximum grid #1 circuit resistance	**1.5 megohm**	—
Ion trap magnet rated strength	**35 gauss**	Approximate
Focusing electrode voltage minimum	**-570 V**	ElectrostaticFocus
Focusing electrode voltage maximum	**330 V**	ElectrostaticFocus
Maximum focusing electrode voltage minimum	**-500 V**	ElectrostaticFocus
Maximum focusing electrode voltage maximum	**1000 V**	ElectrostaticFocus
X-ray shielding warning	**Present**	HighAnodeVoltage

CAPACITANCE

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Cathode-to-all-other-electrodes capacitance	**5 pF**	Approximate

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid #1-to-all-other-electrodes capacitance	**6 pF**	Approximate

APPLICATION		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Application	**Direct-view television picture tube**	—

SOURCE OPERATING CONDITIONS

SOURCE PDF

1968 General Electric Co

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1968 GENERAL ELECTRIC CO

Section 1 · Cathode Ray

OTHER		
PARAMETER	**PUBLISHED VALUE**	**CONDITION / NOTE**
Maximum Anode Voltage	**18000 V**	—
Maximum Grid No. 2 Voltage	**500 V**	—
Anode Voltage	**16000 V**	Typical
Heater Voltage	**6.3 V**	—
Heater Current	**600 mA**	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

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